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# A BILL FOR AN ACT

MAKING AN APPROPRIATION TO UPGRADE THE TELECOMMUNICATIONS SYSTEM  
OF THE HAWAII COUNTY POLICE DEPARTMENT.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that there is a critical  
2 need to upgrade the telecommunications system of the Hawaii  
3 county police department to enhance public and police officer  
4 safety. This need is evidenced by deficiencies in the present  
5 communications system in the area of inadequate radio coverage,  
6 due in part to the distinctive geography of the island,  
7 punctuated with the unique topography of the island's many  
8 valleys and mountains. The existing system's unreliability, the  
9 inability to restore the system in a timely manner, and channel  
10 congestion are also major concerns. Secondary to these problems  
11 are the system's lack of voice security, the need for multiple  
12 channels to cover a single district, the sporadic nature of in-  
13 building service with hand-held two-way radio units, and the  
14 overall poor quality of radio communication in specific  
15 locations. There are an insufficient number of non-interfering  
16 frequencies available in the present communications band to  
17 resolve these problems. The events of September 11, 2001 have



1 forever changed the definition of "normalcy" that society has  
2 experienced in the past. This becomes more evident with the  
3 continuous threats and acts of terrorism that are occurring. A  
4 major component in responding to any acts of terrorism or  
5 disasters involves the interoperability of the public safety  
6 community.

7 The legislature also finds that, coupled with the inherent  
8 problems of the existing system, the county of Hawaii is  
9 mandated and in the process of making changes to the present  
10 radio system as a result of the Federal Communication Commission  
11 rules under part 88, known as the "Refarming Act," and the  
12 Federal Communication Commission reallocation of the 2 GHz  
13 microwave, which the county of Hawaii currently uses, to private  
14 communications services. The need to further upgrade the county  
15 of Hawaii's police telecommunications system is evidenced by the  
16 overall growth of the population and visitors to the island of  
17 Hawaii and the ever increasing number of calls for police  
18 service via the E-911 emergency telephone system. The most  
19 viable solution to these problems is to upgrade the existing  
20 system by acquiring a modern 700 MHz trunked radio system,  
21 coupled with a digital microwave "backbone."



1           The legislature further finds that the salient reason for  
2 converting to the 700 MHz system is that the State of Hawaii is  
3 currently developing the 700 MHz regional plan that proposes to  
4 allocate an adequate number of radio channels in 700 MHz  
5 frequency band specifically for public safety use. Since the  
6 allocation is exclusively for public safety, it provides a very  
7 low potential for radio interference and increased channel  
8 privacy. Lastly, 700 MHz trunking technology makes possible  
9 much more efficient utilization of the radio spectrum, greatly  
10 enhanced functional capabilities, the quickest availability of  
11 new technology, and extensive interoperability among different  
12 departments or agencies operating on the system. Trunking not  
13 only offers frequency efficiency, but will provide maximum  
14 flexibility for multiple users, operational applications,  
15 expansion capability, flexibility for restructuring, protection  
16 from loss of an individual repeater, and other multiple  
17 features, including the ability to support mobile data  
18 terminals. The trunking system will overcome the limitations of  
19 the existing radio system and permit future growth. This  
20 telecommunications system will be instrumental in coordinating  
21 the response by county, state, and federal agencies in disaster  
22 or other emergency situations. Acquiring a new loop microwave



1 system, developing additional radio sites, and renovating or  
2 expanding existing sites, or both, are paramount because  
3 infrastructure is essential for the success of the new trunking  
4 radio system.

5 The legislature further finds that the 700 MHz frequency  
6 band is effective for public safety use. Currently, the city  
7 and county of Honolulu operates on an 800 MHz trunking system  
8 but is contemplating switching to a 700 MHz system because of  
9 inherent problems with interference. The counties of Maui and  
10 Kauai are also currently operating on an 800 MHz trunking system  
11 and must maintain an independent radio infrastructure to operate  
12 on the assigned frequencies within the 800 MHz spectrum. The  
13 700 MHz trunked radio system can provide a common, integrated  
14 radio backbone infrastructure that can be shared by all county,  
15 state, and federal agencies.

16 The legislature further finds that in July of 1995 the  
17 Hawaii county council hired a consultant firm, Schema Systems  
18 Inc., from Whittier, California, which completed an 800 MHz  
19 feasibility study. The study encompassed an analysis of the  
20 present radio operations, including the existing microwave  
21 system and radio facilities. The study also pointed out the  
22 deficiencies and the needs and requirements of the individual



1 departments that utilize the system. It also gave an in-depth  
2 analysis and conversion costs for transforming the existing VHF  
3 system to an 800 MHz trunked system. The conversion costs would  
4 be substantially similar to converting the existing VHF system  
5 into a 700 MHz trunked system.

6 SECTION 2. There is appropriated out of the general  
7 revenues of the State of Hawaii the sum of \$24,000,000, or so  
8 much thereof as may be necessary for fiscal year 2006-2007 for a  
9 grant-in-aid to the county of Hawaii for the Hawaii county  
10 police department to do the following:

- 11 \$720,000 - For detailed 700 MHz system engineering,  
12 system specifications, bidding and  
13 consulting engineer.
- 14 \$18,720,000 - For equipment, installation and project  
15 management.
- 16 \$960,000 - For system and equipment warranty, spare  
17 parts, and trunked system test equipment.
- 18 \$2,400,000 - For facilities improvement and new-site  
19 development.
- 20 \$240,000 - For consultant, final and detailed  
21 engineering, system specifications, and  
22 bidding for a 6 GHz digital microwave.





SB 2401

**Report Title:**

Public Safety; Telecommunications; Appropriation

**Description:**

Appropriates \$24,000,000 as a grant-in-aid to the county of Hawaii to upgrade the police department's radio system from a VHF system to a 700 MHz trunked radio system with a digital microwave backbone.

